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THE CHANGING ROLE OF THE CLERICAL IN THE CIA

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Dean of Conferences

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1. With the age of office automation upon us, the Agency has a massive program underway for the installation over the next few years of word processors to serve our information, data handling, and production needs. Nearly every employee in the Headquarters area will have a terminal. Because of the commonality of equipment, the terminals will be connected first into local networks, and eventually through ODP's large mainframe computers, into an Agency-wide network. New systems such as SAFE and CRAFT will permit the DI analysts to create and manipulate their own files and DO officers serving overseas to produce their own reports on word processors and send them automatically to Headquarters.

2. On 14 and 15 September nearly thirty officers (clericals, managers, career managers, and personnel officers) serving in each of the directorates, as well as the DCI's staff, met under the auspices of the Center for the Study of Intelligence to explore the impact of office automation on the role of the Agency's clericals. We elected to address the role of the clerical first because we believed the clerical is probably more adaptable to change than the manager or the professional and the clerical can serve as a resource to the others. It must be emphasized, however, that the full benefits of automation will not be realized until managers and professionals are also using computer terminals and word processors.

3. SPEAKERS. _____ the Deputy Director of Data Processing, discussed the Agency's plans to install new equipment such as the Wang word processors. He also described the ways in which our normal work mode would likely change in the era of automation. _____ of the Office of Personnel Management provided insights from her own work experience into the people factors relating to the installation of new equipment. Finally, the Agency's Environmental Health and Preventive Medicine Officer, _____ covered some of the popular myths which have arisen with the advent

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of automation. (Their remarks are summarized in the following sections.)

4. BACKGROUND. One needs only to browse through the ads in a newspaper or watch TV to understand how many large companies are now marketing equipment designed to raise the productivity of the office worker. Whereas capital investment has brought huge increases in industrial productivity, only small amounts have been spent thus far on improving the productivity of office workers. In 1900, for example, about 40 percent of the labor force worked on the farm. Today only three percent of the work force is there, but thanks to mechanization, they produce more than is needed. Likewise in the mining industry, only one percent of the work force is able to provide 80 percent of our mineral needs. The greatest growth in the past two decades has been in our service industries (now 68 percent of the work force), but capital investment to improve their productivity has been minimal.

5. Office automation is a means of improving office productivity. It is wrong, however, to measure these increases solely in terms of pages produced per hour or equivalent time spent at specific tasks. The improvement in the quality of the product and ability to meet the consumer's needs in a timely manner are other considerations. Some of the payoffs of automation are impressive. A typical secretary spends about 20 percent of her/his time typing. When adjusted for distractions such as answering the telephone and making corrections of errors, the net rate is less than 10 wpm. Companies which have installed word processors have reported that this rate usually triples. Another measure is cost per letter. On an electric typewriter it is about $7, on a word processor $2, and if the office uses electronic mail, about 30 cents. The biggest payoff comes when managers and professionals begin to do their own work on the terminals. In industry only about 30 percent of the automation is directed toward the executives, yet they earn about 70 percent of the salaries. Instead nearly $750 billion will be spent to improve the productivity of the clerical. Fortunately, this will not be the case in the CIA plan. Agency managers and professionals will have their own terminals. The problem will be overcoming their initial reluctance to use computers

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and persuading them to do most of their own typing.
The conference participants noted, however, that if
we continue to use our word processors as
typewriters and to have our clericals do all of the
typing we will not realize the intended gains of the
new equipment. Much is dependent upon acceptance by
Agency managers of new roles for themselves, the
professionals and the clericals. If automation
succeeds there will be a fundamental change in the
nature of our work, and probably even in our
organization. The role of the clerical will probably
be one of the first changes.

6. TECHNOLOGY. Office automation results from
the convergence of three technologies: data
processing, word processing, and communications. In
the early days computers were large and costly. Most
of all they were complex and difficult to operate.
Only a few, highly-trained specialists were able to
use them. Access was limited to a few installed
terminals. Moreover, computer memory and data
processing capabilities were considerably less than
what one can find in today's small hand-held
equipment. Data were entered using keypunch cards
and we hired many clericals to produce them. Today
both the size and the cost of the computers have
come down dramatically. The semiconductor industry
with its miniature silicon "chips" is now producing
equipment which costs 1/20 of what it did in 1975.
This trend toward miniaturization and cost reduction
is likely to continue. At the same time the power
of the computer as measured in memory and processing
capacity has been growing geometrically. The first
part of the convergence is the application of this
new technology to the task of word processing.
Terminals have been developed which are able to
perform all sorts of amazing functions, yet which
are quite easy to operate. No longer do we need the
services of a programmer or data processor to use
them.

7. This brings us to the third factor in the
convergence, communications. When all these word
processing machines and computers are tied together
in a communications network, the prospects for
increased productivity and savings in time, cost,
and effort are immense. These factors are even more
critical when one considers that our normal response
to increases in our workload has been first to work

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harder, and then to hire more workers. Automation will permit us to do more with the present work force. It is already being used effectively in industries such as banks, insurance companies, stockbrokers, and airline reservations where there is a requirement to store and retrieve lots of data. Now this equipment will help with other office functions such as the preparation of correspondence, filing, sending electronic messages, arranging meetings and keeping calendars, etc. No longer, for instance, will senior officials have to play telephone tag. What we are experiencing is a shift from our traditional ways of doing business.

8. HEALTH HAZARDS. There are several concerns commonly voiced by employees moving into automation. They complain about the production-line nature of some tasks, with their routine work and lack of people contact. Some have a fear of the computer and a reluctance to try something new when their typewriters have been perfectly adequate until now. Most of all, a whole series of myths relating to the health hazards inherent in the use of a computer terminal has developed. A group of mothers in Canada, for instance, complained that they had abnormal pregnancies after working at their terminals. There has also been much talk of the dangers of radiation and other problems such as failing eyesight, aches in the head, back of the neck, or the back after prolonged use of a terminal. [ ] tried to put most of these concerns to rest. He assured us that all of these complaints have been examined carefully and that at present there is no scientific evidence of any serious health hazards associated with the miniscule levels of emissions or "rays" coming from a terminal. There are, however, very real problems relating to operator comfort. Posture, work attitudes, concern of management, adequate lighting, proper refraction of glasses, etc. are more important than the popularly reported health hazards. " Eye strain," for instance, depends on existing eyesight, adequate, non-glare lighting, distance to the screen, angle of the screen, etc. It has been found that many operators who complained of a change in vision after starting to use a terminal, seemed already to have needed new glasses-- the work at the computer only helped call this to their attention. No evidence has been found

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that even prolonged use of CRT's will lead to permanent changes in vision. However, to be prudent the National Institute of Occupational Safety and Health (NIOSH) recommends that until more extensive evidence is available, any operator looking continuously at a screen take a break of ten minutes every hour, and look away from the terminal to rest the eyes every now and then. Those whose work is less intensive should take a break every two hours. Dr. Bush assured us that medical research into suspect occupational hazards relating to the use of a terminal continues and that organizations such as NIOSH are closely monitoring developments.

9. DISCUSSION. The factors developed by our three speakers led to some lively discussion of the Agency's program for office automation and particularly the new role, skills, and career paths which would be open to the clerical. We recognized that we are truly at a crossroads and that, despite some of the anticipated problems in the implementation of this program, it constitutes a real opportunity for the clerical work force and for the Agency if we are willing to make the necessary adjustments. The following sections discuss some of these issues.

10. ISSUES and CONCERNS. The participants noted that we are on the threshold of a major revolution in the way we do business. Office automation will have a serious impact on our work environment, security, data handling, and productivity, plus the quality of our work. We also consider this an opportunity to improve the working conditions, job satisfaction, and responsibilities of the clerical employees through an imaginative adaptation of their skills and duties to the new potentials created through the installation of this equipment. It was noted that there will be a blurring of the distinctions between duties performed by professional and clerical employees and that many of the duties currently performed by the clericals such as typing reports or cables and filing data will largely be done by managers and professional officers. On the other side, clericals, with the assistance of intelligent terminals and decision programs, will be able to make many of the judgments heretofore reserved to

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professionals. Many of the traditional skills of
the clerical, however, still will be needed. There
is considerable concern among the present work force
about job security, adapting to changing roles, the
adequacy of training and potential to develop new
career paths. In the view of the conference
participants, considerable effort needs to be
devoted to defining positions, adjusting traditional
clerical roles, and developing new skills. The
initiative for these rests with the supervisor and
office management. Most of all, we need to be wary
of short-term solutions. Many said that we would
need to reorganize the structure of the Agency to
realize the full benefits of automation.

12. There were some specific applications of the
new technologies which may warrant further
investigation. Some corporate executives, for
instance, carry a small portable computer terminal
on business trips. With these, they are able to
link with a computer in their home office from an
airport or hotel room. If similar mini-terminals
could be tied to Headquarters or to an overseas
station through a secure communications circuit,
this could provide continuous and remote access to
Agency files and communications. Potentially this
could reshape the whole business of field
communications, provide added security for our field
officers-- particularly the NOCs-- and increase the
amount of information available to an officer away
from the field station. There is also a security
risk inherent in such a terminal being used outside
a secure facility, however.

13. ROLES OF CLERICAL. Although many
secretarial functions such as those relating to the
support of Agency executives will remain, it has
been the experience of other organizations that
managers and professionals rapidly take over
responsibility for the preparation and editing of
their own memoranda, messages, and reports. In
fact, many secretaries complain that they can't get
the boss off the terminal. In this environment, the
clericals will find the opportunity to take on new
roles. Most of these will entail maintaining order
in the office and acting as a trouble shooter for
other users of the system. With so many potential
individual users and separate files in any given
office, there will have to be someone who keeps

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track of all the transactions and provides for overall quality control. The new role of the clerical, therefore, will be to serve as a resource and information systems specialist. Some suggested that the new name for a clerical should be office manager. Clericals will be problem solvers and will become even more indispensible as the ranks of traditional secretaries dwindle and the needs to perform duties requiring considerable judgment and independent decision-making grows. A constant theme throughout the conference was the requirement to pay more attention to all aspects of security arising from access to computer files. A communications clerk or ODP specialist with such access could do considerable damage.

14. SKILLS. For the the clerical force, we will still need to hire people who can type, but speed and accuracy are not as crucial with the word processors as they are with the manual typewriters. We will need personnel with an excellent command of English and high aptitude in the verbal, numerical, and clerical fields. Because of the anticipated blurring of differences between professional and clerical roles, we should endeavor to hire clericals who have aptitudes approaching those of the Agency professionals. The primary difference would be in educational level, rather than aptitude. The problem is how to measure accurately these aptitudes and potential with present screening procedures. This all relates to the concerns expressed above about security screening, and the question whether we can buy all of this at the GS 3/4 level. There was also discussion of whether we should test for adaptability to machines, but the participants agreed that most applicants from today's school system will be comfortable with computer terminals.

15. TRAINING. There was considerable discussion of training requirements. Mrs. Stromberg had mentioned that the experience in industry has been that training costs tend to equal the money spent for the office automation equipment. For the Agency EOD, a three-tiered training program was identified-- orientation, familiarization, and skills. There was strong support for a return to an arrangement similar to the old pool. In this the new clerical employees would receive an orientation to the Agency, instructions on security, answering the

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telephone, classification controls and handling classified data, plus a familiarization with the various types of office equipment which they are likely to encounter. Emphasis should be on skills training, rather than receiving briefings and lectures. Such training should focus on those procedures and equipment which are unique to the CIA environment.

16. Component based training should provide skills training on the specific equipment found in the trainee's new office. In the orientation phase, for instance, the EOD will be shown be shown a Wang terminal or the VM system will be demonstrated. In this phase, they learn to use the equipment and learn the files and procedures relating to their office. In this manner, a clerical assigned to the DO would learn to function in that environment, whereas one assigned to the DI would learn other systems-- although both might be using the same type of terminal.

17. The retraining of the present clerical force will probably be the most difficult task. Many fear the machines and will attempt to continue to do their work on manual typewriters. The retraining of these personnel is such a pressing and serious matter, that the conferees recommend that OTE and ODP form a task force to explore these training requirements. It would also be desirable to form resource teams to advise and provide work-related guidance as the equipment is installed. Work on the transition needs to begin now.

18. REWARDS. There is considerable potential for higher job satisfaction once we transit the period of adjustment to our new office environment. Those using the machines will have greater responsibility, but also may have less opportunity for social intercourse. The CRT, like the telephone, tends to hold your attention while you are using it. There will also be a greater need for feedback (negative and positive). The potential for the clerical to gain greater status within the organization is also great. Because of this and the greater security and other responsibilities resulting from automation, consideration must be given to increasing the clerical pay scale and doing away with the present personnel system which tends

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to discriminate against them. Professional and clerical positions need to be classified on the basis of responsibility and scope of the work performed and not tied to the grade of the supervisor. Likewise there should be equal treatment in consideration for promotion. We need to take a fresh look at our grade structure and create a new career path for the clerical.

19. FINDINGS AND RECOMMENDATIONS. The objectives of this conference were to air issues and provide a forum for a free exchange of ideas. Many of the participants believed that the clericals will make the necessary adjustments to the changing office environment more readily than their bosses. It is clear that office automation is upon us. We cannot turn back. Agency managers, professionals, and clericals need to take steps now in order to gain the expected potentials of automation. This will be a difficult period of transition and if the clerical is to assume new roles and develop new skills, the assistance and encouragement of all levels of management is required.

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